

Anacampsis betulinella, a new species of the *Gelechiadae*

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(3rd Communication on Lepidoptera).

In studying some species of *Gelechiadae* for their variability I found amongst *Anacampsis* (= *Tachyptilia*) *populella* Cl. a variety which shows constant differences from the typical *populella*-forms by its blackish ground-colour. Supposing it might represent a distinct species I put the case before Mr. Doets asking him if he had ever observed any difference in the biology of *populella* and this blackish form. At his corroborating my supposition I mounted the genitalia of both forms.

To my satisfaction these organs represented evident and constant differences, which further sustain my supposition and I feel safe in describing the blackish form as a new species.

Perhaps the specimen quoted as *betulella* by Toussaint von Charpentier in „Die Zinsler, Wickler, Schaben und Geischen des Syst. Verz. der Schmetterl. d. Wiener Geg., vergl. m. den in der Schiffermüllerschen Samml. in Wien befindl. und von J. Hübner abgebildeten Arten d. Gattungen. Mit Anmerkungen versehen von J. L. Th. Fr. Zincken genannt Sommer“, Braunschweig 1821, p. 178 may have belonged to this species, but this question cannot be decided as no description exists. The specimen is destroyed by fire with Schiffermüller's collection in 1848, anyhow this name rests a *nomen nudum*.

I saw the materials of the Zoölogisch Museum of Amsterdam, the Rijksmuseum van Natuurlijke Historie at Leiden and the collections of Mr. Doets at Hilversum and Count Ben tinck at Overveen and the author's collection.

Betulinella can be found in the whole country, also in the dunes, but here it did not develop into a special race, as is the case with *populella*. Undoubtedly *betulinella* will be found everywhere in Europe where the foodplant, *Betula alba* L., grows and therefore about in the same regions as *populella*.

Anacampsis betulinella n.sp.

♂, ♀ 17—18 mm. Head and palpi grey, thorax dark grey or blackish, abdomen grey, segments 2—4 often pale greyish-yellow; fore-wings elongate, apex round-pointed, ground-colour black, the 3 stigmata in the middle of the wing often indicated by greyish-white scales, the acutely angulated fascia also greyish-white, in marginal area and at costa often intermixed with white scales which make the terminal black dots more conspicuous. Hind-wings rather dark grey, sometimes a little infuscated, basal part a little paler, the cilia of the same colour. Type in Zoölogisch Museum, cotypes in coll. D o e t s and V á r i.

See plate 1, fig. 1—4.

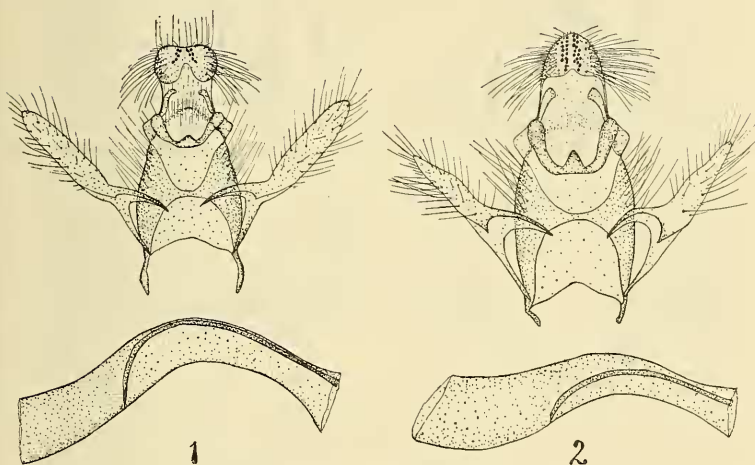


Fig. 1. *Anacampsis betulinella* V. ♂, 50 × nat. size.

Fig. 2. *A. populella* Cl. ♂, id.

Description of the genitalia of *betulinella*: ♂, fig. 1, Uncus strongly rounded with two little rows of feeble pegs at the top; gnathos with a short median tooth; valvula parallel, a little tapering above; aedeagus more strongly curved with inner tube close to the side.

♀, fig. 3, Ostium plate a little smaller and sharper peaked; apophyses and anapophyses long; limen with a great median excavation; bursa with a crescent-shaped signum.

Description of the genitalia of *populella*: ♂, fig. 2, Uncus pointed with two rows of strong pegs at either side centrally; gnathos with a longer median tooth; valvula shorter and also

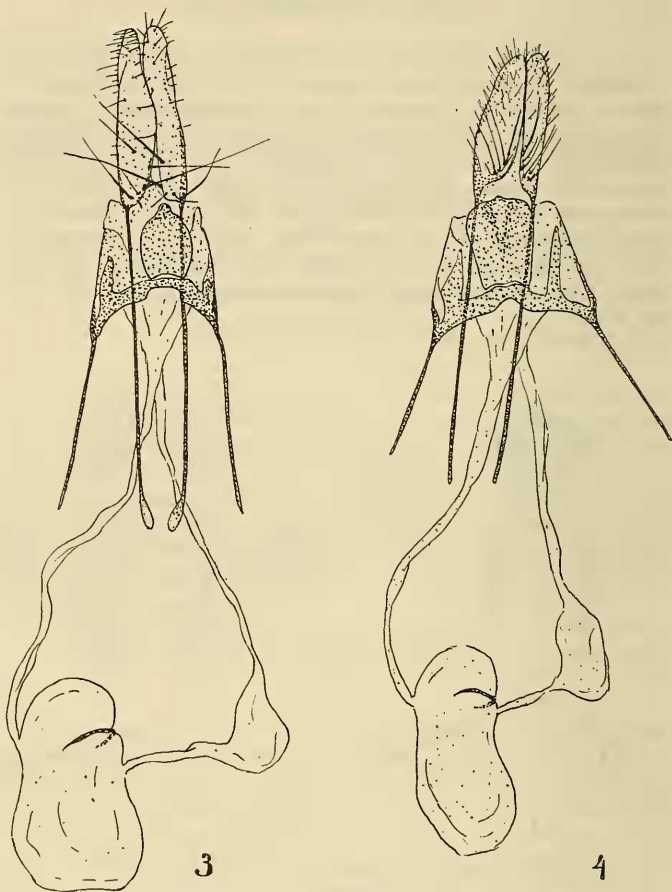


Fig. 3. *Anacampsis betulinella* V. ♀, 30 × n. size.

Fig. 4. *A. populella* Cl. ♀, id.

tapering above; aedoeagus not so strongly curved, inner tube situated more centrally.

♀, fig. 4, Ostium plate broader and less sharp peaked; apophyses and anapophyses shorter; limen with a small median excavation; bursa as that of *betulinella*.

In the figures 1 and 2 I have left out the tube which is formed by the united sacculi. See Pierce: "The Genitalia of the Tineina," 1935, p. 20, pl. XI.

Biology of *Anacampsis betulinella* Vári
and *populella* Cl.

by

C. DOETS, Hilversum.

Mr. Vári asked me to add something about the biology of the two species of *Anacampsis* to his article, which I do with much pleasure.

Betulinella is very common about Hilversum and without doubt everywhere in Holland where big birches grow. The larva lives in rolled up leaves of *Betula alba* L. I found them in May and June mostly on big trees standing alone or on the border of a wood, from a half till two meters above the ground. At first it rolls up the leaf at the sides, seldom at the top and after having completed the work, both ends are closed in the manner in which a grocer folds a paper-bag. Sometimes one or two leaves are added to this first roll.

The larva of the Tortricide *Epiblema solandriana* L., which lives in the same way on birches, is easy to distinguish from *betulinella* as it misses the brownish oval spot on the last segment.

The young *betulinella*-larva is greyish-green, a little nacreous, with black head, spots, true legs and plate on the second segment, while the oval spot on the last segment is brownish. The full-grown larva, however, is yellowish-green. Within this roll it lives amidst its excrements and the pupation takes place in this habitation or out of it between two leaves.

The biology of *populella* is exactly the same as that of *betulinella*, only, as the name indicates already, it lives on poplars. I found the larvae on all *Populus* species, also on *P. canescens* Sm. It is found on *Salix* species too. On *S. repens* L. lives the race *fuscatella* Bent., which seems to be confined to the dunes.

Populella is very common, especially where big poplars grow. There is very little difference between the two caterpillars when they are young. The full-grown larva of *populella* is as a rule somewhat bigger and robuster than the one of *betulinella* (which is also the case with the pupae and the imagines of the two species) and its colour remains greyish-green till pupation. Except that the pupa of *populella* is a little bigger than the one of *betulinella* I did not succeed in discovering any constant difference between them.

The imagines emerge during the end of June and the commencement of July from 8 till 14 days after pupation.

In the day-time the imagines of *betulinella* are to be found on the trunks of big birches which have a rough and cloven bark. They like to sit on the dark patches of it, the colour

of which agrees exactly with that of the fore-wings of the moth. It is not easy to catch them, for they are very shy and when they perceive that they are watched, they rapidly run from one dark patch across the white part of the bark to another in order to get as soon as possible out of sight.

In the evening they become much more active and also more reckless, as I often found them sitting on the white bark and they fly from the tree on the slightest rumour or movement. When they are in copulation, the male and female remain attached to each other during their flight, which I observed when a copula sat down on my shirt. When you succeed in placing a glass-tube over such a copula, the moths immediately release and begin to run through the tube in a very rapid manner.

At sunset of the 8th of July I found three pairs in copula in a quarter of an hour. I did not succeed, however, in getting eggs from the female.

Of course the imagines of *populella* are found on trunks of poplars. I saw them also exclusively on big trees, especially those with rough and cloven bark. They are more conspicuous when sitting on the bark than those of *betulinella*. Up till now I did not observe the pairing of this species. But I presume that it copulates at the same time as *betulinella* for I observed that the imagines are also very lively at sunset.